

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1. (Currently Amended) An implantable device for mounting to a patient's bone comprising:
 - a housing having an outer surface configured to prevent osseointegration of said housing with the patient's bone;
 - one or more components mounted in said housing; and
 - at least one protuberance configured to osseointegrate with the patient's bone without manual assistance, wherein said protuberance ~~to~~ extends from said outer surface of said housing, the protuberance configured to separate at least a portion of said outer surface of said housing from the patient's bone when said housing is positioned adjacent the patient's bone prior to osseointegration.
2. (Currently Amended) The implantable device of claim 1, wherein said housing outer surface is configured to abut the patient's bone after osseointegration.
3. (Cancelled)
4. (Previously Presented) The implantable device of claim 1, wherein said at least one protuberance extends from said housing outer surface toward the patient's bone when the implantable device is in an implant orientation adjacent the patient's bone.
5. (Previously Presented) The implantable device of claim 4, wherein said at least one protuberance comprises:
 - two protuberances having longitudinal axes that lie in a plane at opposing angles relative to an implant axis, wherein said implant axis is substantially orthogonal with said housing outer surface and with said adjacent surface of the patient's bone.

6. (Previously Presented) The implantable device of claim 5, wherein said opposing angles between said longitudinal axes of said protuberances and said implant axis are each approximately between 5 and 85 degrees.

7. (Previously Presented) The implantable device of claim 1, wherein the implantable device is a tissue stimulating prosthesis.

8. (Previously Presented) The implantable device of claim 7, wherein said tissue stimulating prosthesis is a cochlear implant, and further wherein said one or more components comprise a stimulator unit of the cochlear implant.

9. (Previously Presented) The implantable device of claim 8, wherein a receiver antenna is operatively connected to said housing.

10-12. (Cancelled)

13. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance is configured to be permanently implanted in the patient's bone.

14. (Previously Presented) The implantable device of claim 1, wherein said at least one protuberance is configured to be extricated from the patient's bone subsequent to osseointegration.

15. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance is configured to prevent significant relative lateral movement between the implanted device and the patient's bone.

16. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance comprises at least one loop member.

17. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance comprises at least one aperture.

18. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance comprises at least one substantially smooth shaft.

19. (Withdrawn) The implantable device of claim 18, wherein the at least one substantially smooth shaft comprises a plurality of substantially smooth shafts each having a longitudinal axis, wherein the longitudinal axes of the shafts lie in different planes.

20. (Previously Presented) The implantable device of claim 22, wherein said at least one protuberance comprises at least one threaded shaft.

21. (Previously Presented) The implantable device of claim 1, further comprising:

at least one elongate flange extending from said housing in a direction substantially parallel with a surface of the bone when the device is in an implant orientation, and wherein each of said at least one osseointegrating protuberance is operationally disposed on one of said at least one flange so as to be laterally offset from said housing.

22. (Previously Presented) The implantable device of claim 21, wherein said at least one laterally offset protuberance is configured to be manipulated to extricate said protuberance from the bone subsequent to osseointegration.

23. (Previously Presented) The implantable device of claim 20, wherein said protuberance is a screw and wherein said threaded shaft is a part of said screw.

24. (Previously Presented) The implantable device of claim 21, wherein said at least one elongate flange is configured to prevent osseointegration.

25. (Withdrawn) The implantable device of claim 1, wherein the at least one osseointegrating protuberance comprises at least one fastening member mounted to a support.

26. (Withdrawn) The implantable device of claim 25, wherein the at least one fastening member comprises one or more of the group consisting of:

- a screw;
- a clip; and
- a nail.

27. (Previously Presented) The implantable device of claim 1, wherein said at least one protuberance is formed of or coated with one of either titanium or titanium alloy.

28. (Previously Presented) The implantable device of claim 1, wherein said at least one protuberance comprises a protuberance surface treatment configured to encourage osseointegration.

29. (Cancelled)

30. (Previously Presented) The implantable device of claim 1, wherein said housing outer surface is formed of a material coated with a biocompatible silicone.

31. (Previously Presented) The implantable device of claim 1, wherein said housing outer surface is formed from at least one of a biocompatible metallic, ceramic and polymeric material.

32-39. (Cancelled)

40. (Withdrawn) The prosthesis of claim 32, wherein the at least one osseointegrating protuberance comprises at least one loop member.

41. (Withdrawn) The prosthesis of claim 32, wherein the at least one osseointegrating protuberance comprises at least one aperture.

42. (Withdrawn) The prosthesis of claim 32, wherein the at least one osseointegrating protuberance comprises at least one substantially smooth shaft.

43. (Withdrawn) The prosthesis of claim 42, wherein the at least one substantially smooth shaft comprises a plurality of substantially smooth shafts each having a longitudinal axis, wherein the longitudinal axes of the shafts lie in different planes.

44-48. (Cancelled)

49. (Withdrawn) The prosthesis of claim 32, wherein the at least one osseointegrating protuberance comprises at least one fastening member mounted to a support.

50. (Withdrawn) The prosthesis of claim 49, wherein the at least one fastening member comprises one or more of the group consisting of:

- a screw;
- a clip; and
- a nail.

51-88. (Cancelled)

89. (Previously Presented) The implantable device of claim 1, wherein the implantable device is a tissue stimulating prosthesis.

90. (Previously Presented) The implantable device of claim 89, wherein said housing and said one or more components comprise a stimulator unit of a cochlear implant.

91. (Currently Amended) The implantable device of claim 1, wherein each said at least one protuberance comprises at least one ~~features~~ feature that facilitates osseointegration.

92. (Previously Presented) The implantable device of claim 1, wherein each said at least one protuberance is configured to prevent substantial relative lateral movement between the implantable device and the patient's bone.

93. (Previously Presented) A method for implanting an implantable device having a housing with an outer surface configured to prevent osseointegration of the housing with a patient's bone and at least one osseointegrating protuberance extending from the housing, the method comprising:

forming a pocket on the patient's bone to receive the housing;

positioning the housing in said pocket such that the at least one protuberance is in direct contact with the patient's bone; and

allowing osseointegration of the at least one protuberance to occur in the absence of manual assistance,

whereby when the at least one protuberance is osseointegrated the outer surface of the housing is not osseointegrated.

94. (Previously Presented) The method of claim 93, wherein the at least one protuberance comprises at least two protuberances, the method further comprising:

positioning said at least two protuberances adjacent surfaces of the patient's bone.

95. (Currently Amended) The method of claim 94, wherein the at least two protuberances each have a longitudinal axes axis that lie lies in a same imaginary plane at opposing angles relative to an implant axis that is substantially orthogonal with the housing outer surface, the method further comprising:

positioning said at least two protuberances adjacent to the patient's bone such that the implant axis is substantially orthogonal to the patient's bone and such that at least a portion of the housing outer surface is spaced from patient's bone before osseointegration occurs.

96. (Previously Presented) The method of claim 95, wherein the opposing angles between the longitudinal axes of the protuberances and the implant axis are each approximately between 5 and 85 degrees.

97. (Previously Presented) The method of claim 93, wherein the implantable device is a tissue stimulating prosthesis.

98. (Previously Presented) The method of claim 97, wherein the tissue stimulating prosthesis is a cochlear implant.

99. (Previously Presented) The method of claim 93, wherein forming a pocket comprises:

forming said pocket in the patient's bone, wherein the patient's bone is selected from the group consisting of a periosteum, skull, and a mastoid process.

100. (Previously Presented) The method of claim 93, further comprising:

extricating said at least one protuberance from the bone subsequent to osseointegration of the protuberance.

101. (Previously Presented) The method of claim 93, wherein the implantable device further comprises a flange extending from the housing in a direction substantially parallel with a surface of the bone when the device is in an implant orientation, wherein one or more of the at least one protuberance is disposed on the flange such that the one or more protuberances are laterally offset from the housing.

102. (Previously Presented) The method of claim 101, further comprising:

manipulating, subsequent to osseointegration, the one or more laterally-offset protuberances to extricate the one or more protuberances from the bone.

103. (Previously Presented) The method of claim 102, wherein the at least one elongate flange is configured to prevent osseointegration.

104. (Previously Presented) The method of claim 93, wherein the at least one protuberance is formed of or coated with one of either titanium or titanium alloy.

105. (Previously Presented) The method of claim 93, wherein the at least one protuberance comprises a protuberance surface treatment configured to encourage osseointegration.

106. (Previously Presented) The method of claim 93, wherein the housing outer surface is formed of a material coated with a biocompatible silicone.

107. (Previously Presented) The method of claim 93, wherein the housing outer surface is formed from at least one of a biocompatible metallic, ceramic and polymeric material.

108. (Previously Presented) An implantable device comprising:

 a housing to be secured to a patient's bone, said housing having an outer surface configured to prevent osseointegration of said housing with the patient's bone;

 one or more components mounted in said housing; and

 at least one osseointegrating protuberance, extending from an outer surface of said housing, wherein said at least one osseointegrating protuberance is configured to be placed in direct contact with but not within the patient's bone and further configured to gradually sink into the patient's bone during osseointegration of said protuberance.

109. (Previously Presented) The implantable device of claim 108, wherein said housing outer surface is configured to abut the patient's bone.

110. (Previously Presented) The implantable device of claim 108, wherein said at least one protuberance extends from said housing outer surface toward the patient's bone when the implantable device is in an implant orientation adjacent the patient's bone.

111. (Previously Presented) The implantable device of claim 110, wherein said at least one protuberance comprises:

two protuberances having longitudinal axes that lie in a plane at opposing angles relative to an implant axis, wherein said implant axis is substantially orthogonal with said housing outer surface and with said adjacent bone surface of the patient's bone.

112. (Previously Presented) The implantable device of claim 111, wherein said opposing angles between said longitudinal axes of said protuberances and said implant axis are each approximately between 5 and 85 degrees.

113. (Previously Presented) The implantable device of claim 108, wherein the implantable device is a tissue stimulating prosthesis.

114. (Previously Presented) The implantable device of claim 108, wherein said at least one protuberance is configured to be extricated from the patient's bone subsequent to osseointegration.

115. (Previously Presented) The implantable device of claim 108, further comprising:

at least one elongate flange extending from said housing in a direction substantially parallel with a surface of the patient's bone when the device is in an implant orientation, and wherein each of said at least one osseointegrating protuberance is operationally disposed on one of said at least one flange so as to be laterally offset from said housing.